



Comptroller General
of the United States
Washington, D.C. 20548

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REDACTED VERSION

Decision

Matter of: Enstrom Helicopter Corporation
File: B-253014
Date: August 13, 1993

Kenneth A. Martin, Esq., and Andrew B. Katz, Esq., Elliott, Vanaskie & Riley, for the protester.
Kenneth S. Kramer, Esq., Catherine H. Winterburn, Esq., and Lawrence E. Ruggiero, Esq., for Bell Helicopter Textron Inc., an interested party.
Craig E. Hodge, Esq., and Stephanie A. Kreis, Esq., Department of the Army, for the agency.
Richard P. Burkard, Esq., and John Van Schaik, Esq., Office of the General Counsel, GAO, participated in the preparation of the decision.

DIGEST

1. In considering protests against an agency's evaluation, our Office will not make an independent determination of the merits of an offeror's proposal, or in the case of a demonstration, the performance of the offeror's product; rather, we will examine the agency evaluation to ensure that it was reasonable and consistent with stated evaluation criteria.
2. Selection of awardee's higher cost helicopter on the basis of its superiority in other evaluation areas, such as training effectiveness, management, and past performance, is unobjectionable where the solicitation did not state that the award would be based on low cost and where the agency reasonably concluded that the overall superiority of the awardee's aircraft was worth the additional cost.

DECISION

Enstrom Helicopter Corporation protests the award of a contract to Bell Helicopter Textron Inc. under request for proposals (RFP) No. DAAJ09-91-R-0514, issued by the

The decision issued on August 13, 1993, contained proprietary information and was subject to a General Accounting Office protective order. This version of the decision has been redacted. Deletions in text are indicated by "[deleted]."

Department of the Army for helicopters to be used in the training of entry-level helicopter pilots at Fort Rucker, Alabama. Enstrom argues principally that the Army unreasonably evaluated the "training effectiveness" of its proposed helicopter and that the Army did not justify paying a significant cost premium for the Bell Helicopter.

We deny the protest.

BACKGROUND

The RFP, issued May 1, 1992, contemplated the award of a fixed-price contract for 157 new training helicopters (NTHs) and 12 cockpit procedure trainers with an option to purchase an additional 157 helicopters and 12 trainers. The RFP's purchase description provided that the NTH is a "Non-developmental Item (NDI) commercial helicopter, built to Federal Aviation Administration (FAA) Normal Category Rotorcraft airworthiness standards" The RFP specified that the NTH shall have a minimum of three seats. In addition to a pilot and co-pilot seat, the helicopters were to include a third seat to allow an "observer" to view the primary flight instruments and the outside flight environment. The Executive Summary issued with the RFP stated that:

"[t]he primary objective of the NTH program is to reduce operating and support cost for the core Initial Entry Rotary Wing (IERW) training without degrading training effectiveness. This will be accomplished by displacing the UH-1, as the current primary trainer, with a commercially available helicopter."

In addition to requiring submission of past performance data, as well as technical, management, logistical support, and cost proposals, the RFP stated that the agency would conduct a training effectiveness user evaluation (TEUE) of the proposed aircraft where the "candidate aircraft will be evaluated as a potential trainer" for the Army's IERW training program. The RFP provided that during the TEUE, Army-selected instructor pilots were to "fly simulated training missions from the [Army's] Flight Training Guide (FTG) in each candidate aircraft." The pilots were to evaluate the performance of each helicopter and, among other tasks, score each selected FTG maneuver. The RFP also stated that "a qualitative assessment will be conducted by experimental test pilots to more precisely define any weaknesses identified. . . ." The RFP provided that the "NTH at the TEUE shall represent the 'as delivered' production NTH configuration."

The RFP provided, however, two exceptions to the "as delivered" requirement. First, offerors were permitted to participate in the TEUE with an aircraft that was only "experimentally certified" in the event that the "crashworthy fuel system, crashworthy seats and dual pilot IFR [instrument flight rules] certifications have not been obtained prior to the TEUE."² Second, the RFP authorized "minor deviations" to the production aircraft. Specifically, it stated that the Army "recognizes that some requirements for the production aircraft are not vital to the conduct of the TEUE." The RFP stated that all requests for deviations must be in writing to the contracting officer and "to be considered, a proposed deviation may not impact the evaluation of either training effectiveness, maintenance or safety."

- The RFP provided that award would be made to the offeror whose proposal met all critical requirements in the purchase description and met program objectives in all other evaluated areas. The critical requirements represented the minimal prerequisites and were evaluated in the "technical" evaluation on a "go/no go" basis. The RFP stated that the Army "reserves the right to select the proposal which it determines will provide the best overall value, in consideration of all evaluated areas - technical, training effectiveness, cost, logistics, management, and past performance." The evaluation of each area was to include an assessment of risk. The RFP stated that "training effectiveness" was the most important evaluation area. Cost was considered more important than logistics, which was more important than management or past performance. Management and past performance were to be equally weighted. Since the technical evaluation concerned only minimum requirements which were to be evaluated on a "go/no go" basis, the technical evaluation area was not ranked by the RFP.

With respect to the evaluation of price, the RFP stated that "[t]he overall cost and affordability of the program will be evaluated" considering: (1) the acquisition price; (2) life cycle cost; and (3) other "cost/benefits" which was to include costs peculiar to an offeror's proposal such as equipment, government facilities, and personnel required to support a proposed helicopter and benefits such as cost savings the government will realize from a particular helicopter. The RFP stated that life-cycle cost was considered to be significantly more important than the other cost elements. Offerors were to "provide life cycle cost data for a five (5) year period for each NTH configuration,"

²An offeror with an experimental IFR certification was required to provide an IFR certification plan as part of its proposal.

and the RFP stated that the evaluation under this element was to consider 5-year costs.

The Army received five proposals in response to the RFP, including proposals from Bell and Enstrom. The TEUE took place at Fort Rucker between September 14 and December 2. The Army reports that each candidate aircraft was flown for approximately 180 hours and evaluated by twenty experienced instructor pilots.³ During the TEUE, the pilots evaluated the performance of each aircraft in completing maneuvers selected from the Army's FTG. The training effectiveness of each aircraft was based on two courses of instruction--contact and instrument, with ten pilots evaluating each course. Contact training involves the performance of basic maneuvers, while instrument training emphasizes flying while relying on the aircraft's instrument panel without reference to the outside world.

The instructor pilots generated a wealth of data regarding the training effectiveness of the competing helicopters. For example, they were asked to provide numerical ratings from 1 to 7 for each training maneuver, with 4 meeting the standard as defined by the Army's FTG; they responded to a multiple choice questionnaire; and they provided detailed written comments relating to specific aspects of training effectiveness. The Army also evaluated each candidate aircraft at the TEUE with respect to fuel consumption and endurance, human factors, and safety. In addition, each aircraft was evaluated by Army experimental pilots to determine whether the proposed helicopters met RFP requirements and to more precisely define any weaknesses reported by the instructor pilots during the TEUE.

The TEUE data was provided to an agency source selection evaluation board (SSEB) in January, 1993. The SSEB analyzed the data and advised each offeror of its strengths and weaknesses noted in the TEUE. After conducting discussions, the Army received BAFOs by March 2. The SSEB analyzed the raw data compiled during the TEUE and, while the TEUE data contained summaries and overviews of the instructor pilots' responses, the SSEB independently arrived at its conclusions about the training effectiveness of the aircraft. The SSEB divided the data into four categories: (1) maneuver evaluation contact; (2) maneuver evaluation instrument; (3) human factors; and (4) fuel endurance.

With respect to the maneuver scores, the data which the SSEB presented to the source selection advisory council (SSAC)

³The Army states that the instructor pilots have flown an average of 9,000 flight hours and trained over 400 students each.

included detailed charts of the scores assigned by the instructor pilots during the TEUE. These charts represented the average, or median scores, assigned by the instructor pilots for particular maneuvers, and the high and low scores, thus giving a representation of the range of the TEUE scores. The SSEB charts summarized the scoring on 13 contact maneuvers and 6 instrument maneuvers. Enstrom's median maneuver scores ranged from [deleted], with four meeting the standard as defined by the Army's FTG, including scores below [deleted] for the instrument takeoff, instrument approach and partial panel maneuvers. In contrast, Bell's median maneuver scores ranged from [deleted]. The SSAC met with the source selection authority (SSA) on numerous occasions prior to his final selection decision. These meetings were attended by instructor pilots and evaluators.

Based on the evaluation of the technical proposals and the proposed aircraft, the SSA concluded that all five proposals met the "go/no go" critical requirements of the RFP. Concerning training effectiveness, the SSA concluded that the Bell helicopter was slightly more effective for "facilitating student learning and skills transfer" while Enstrom's aircraft offered slightly less training effectiveness.

The SSA specifically noted that while the Enstrom helicopter would enhance training of some maneuvers, that aircraft would require changes in the instrument instruction program for three maneuvers: instrument take-off, instrument approach, and partial panel. The pilots found that the helicopter had a "power margin" problem during the execution of the instrument takeoff maneuver. The agency also found that vibration in the Enstrom helicopter would have a negative impact on training effectiveness during the execution of the instrument approach maneuver and the partial panel maneuver and that the instructor pilots noticed excessive vibration and "cyclic feedback" when traveling above 85 knots indicated airspeed. In this regard, the RFP required that the NTH be able to achieve a sustained true airspeed of 90 knots.⁵ The SSA noted that the vibration would cause fatigue and reduce the ability of students to learn new skills.

⁴The cyclic is the primary control for airspeed; "cyclic feedback" refers to vibration or shuddering of the cyclic.

⁵The Army states that the difference between "true" and "indicated" airspeed is approximately 2-3 knots. Thus, it states, an indicated airspeed of 87 knots is equivalent to a true airspeed of 90 knots.

The SSA also noted that, while the Enstrom helicopter met the RFP's critical requirement for 2 hours and 30 minutes of fuel endurance, the fuel tanks on the Enstrom helicopter could not be completely filled, or "topped-off," without exceeding the maximum gross weight of the aircraft. According to the SSA, since its fuel tanks could not be topped-off, the Enstrom helicopter required a cumbersome and time-consuming refueling procedure, and this procedure detracts from training effectiveness since it shortens the time available for flying. In comparison, the SSA noted that the Bell helicopter has a fuel endurance of more than 3 hours and that this allows additional flying time which enhances training effectiveness.

The record indicates that based on the TEUE, the SSEB and the SSAC concluded that there were training effectiveness problems with the Enstrom helicopter in the area of human factors. For example, the third seat in the aircraft was cramped and [deleted]. The Army also noted that ingress and egress for the student in the third seat was difficult [deleted], and the helicopter did not include adequate steps or handholds.

With respect to the management factor, the SSA found that Bell's proposal offered low risk and exceeded the RFP's requirements; Enstrom met the requirements, but the SSA assigned moderate risk under one of the management subfactors [deleted]. Bell and Enstrom were evaluated as essentially equal with respect to logistics. Concerning "past performance," the SSA assigned low risk to Bell based on its record for on-time delivery of helicopters and parts. Enstrom was considered to present low to moderate performance risk.

For the aircraft at issue here, the Army determined that the total costs, including the acquisition price, 5-year life cycle costs, and other costs/benefits, were as follows:

<u>Costs (in millions)</u>	<u>Enstrom</u>	<u>Bell</u>
Acquisition	[deleted]	[deleted]
5-year life cycle costs	[deleted]	[deleted]
Other costs/benefits ⁶	[deleted]	[deleted]
Total	[deleted]	\$216.5

The SSA noted that the Bell helicopter was the third most expensive based on overall cost, including acquisition price, life cycle costs, and other costs/benefits, while the

⁶These figures represent the savings to the government resulting primarily from the proposed warranties and enhanced delivery schedules.

Enstrom helicopter was the lowest. With respect to life cycle costs, the SSA noted that the Bell helicopter was third low, Enstrom's was lowest, and that all proposed aircraft offered substantial operating and support cost savings when compared to the currently used UH-1 trainer, which has an estimated operating and support cost of \$646 per hour in fiscal year 1994 dollars.⁷

The SSA noted that "[t]he Enstrom proposal, despite its lower cost, does not provide the best value because of the training effectiveness problems revealed during the user evaluation at Fort Rucker." Although another firm offered a helicopter considered to be more effective than Bell's in facilitating student learning and skills transfer, the SSA found that offeror did not present the best value because of its higher cost and performance risk. The SSA concluded that "when each of the [evaluation areas is] considered, the Bell Helicopter offers the best overall value to the Government." Accordingly, the contract was awarded to Bell. This protest followed.

PROTEST OVERVIEW

Enstrom primarily challenges the Army's findings concerning the training effectiveness of its aircraft. Enstrom argues that the weaknesses identified by the Army were either nonexistent or immaterial and could not reasonably have served as grounds to downgrade its proposal. In addition, according to Enstrom, it was treated unfairly during the training effectiveness evaluation, since Bell's helicopter suffered from similar weaknesses yet was considered more effective as a trainer. In addition, Enstrom argues that for Bell the Army relaxed the RFP requirement that the student in the third seat be able to view the primary flight instruments. Finally, Enstrom challenges the Army's source selection decision, arguing that the agency failed to determine whether the Bell helicopter was worth the additional acquisition cost and life cycle cost over the Enstrom helicopter. According to the protester, the Bell helicopter will cost the Army [deleted] over the next 20 years more than the Enstrom helicopter. Enstrom maintains that the SSA failed to consider this disparity and argues that the Army cannot justify this additional expense.

At a hearing held in connection with this protest, we heard testimony from the chairman of the SSEB and a member of the SSAC. The testimony primarily concerned the agency's conclusions concerning the training effectiveness of the

⁷The operating and support costs for the Bell helicopter are estimated at [deleted] per hour in fiscal per 1994 dollars while for Enstrom the figure is [deleted].

competing helicopters. Based on our review of the entire record, including the hearing transcript, the contemporaneous evaluation record, and the submissions of the parties, as we explain in detail below, we find no legal basis upon which to object to the award to Bell.

ANALYSIS

1. Training Effectiveness

In considering protests against an agency's evaluation, our Office will not make an independent determination of the merits of an offeror's proposal, or in the case of a demonstration, the performance of the offeror's product; rather, we will examine the agency evaluation to ensure that it was reasonable and consistent with stated evaluation criteria. The evaluation of technical proposals is primarily the responsibility of the contracting agency; the agency is responsible for defining its needs and the best method of accommodating them, and must bear the burden of any difficulties resulting from a defective evaluation. Litton Sys., Inc., B-239123, Aug. 7, 1990, 90-2 CPD ¶ 114. Mere disagreement with the agency does not itself render the evaluation unreasonable. Allied-Signal Aerospace Co., B-250822; B-250822.2, Feb. 19, 1993, 93-1 CPD ¶ 201; Rand McNally-TDM, Inc., B-248927, Oct. 7, 1992, 92-2 CPD ¶ 352.

A. Vibration

The Army found that when the instrument approach and partial panel maneuvers were executed in the Enstrom aircraft, training effectiveness was degraded as a result of excessive vibration. During an "instrument approach" maneuver, the student relies on the helicopter's instrument panel to perform a landing approach. A partial panel maneuver, which can be performed during any instrument maneuver, *i.e.*, without reference to the outside world, is performed without a complete set of instruments. The purpose of this maneuver is to train a pilot to safely complete an instrument flight when one or more instruments fail.

The agency states that the vibration of the Enstrom instrument panel would distract a novice pilot in performing these maneuvers by adding stress to an already stressful, high workload maneuver, resulting in a negative learning environment. In addition, the Army found that the vibration over long periods of time caused fatigue.

The protester does not claim that vibration problems did not occur at the TEUE; [deleted]. Alternatively, at the hearing, the protester suggested, for the first time, that the vibration experienced in the Enstrom helicopter could be reduced by "calibrating the rotors."

The Army points out, initially, that if the vibration problem had been easy to resolve, it would have been accomplished during the TEUE, noting that "Enstrom conducted several unscheduled maintenance actions during the TEUE that appear to have been directed toward this problem, without success." In any event, as stated, the RFP allowed offerors to modify the aircraft presented at the TEUE only by requesting a written deviation for changes that do not "impact the evaluation of either training effectiveness, maintenance or safety." Here, Enstrom did not request a deviation for any of its proposed solutions to the vibration problems. Further, it is clear from the record that a request to modify the aircraft in an effort to eliminate the vibration would have been denied since the modification would (if successful) affect the evaluation of training effectiveness. As the Army points out, to allow such speculative "paper" changes after the actual demonstrations at the TEUE would invalidate the data obtained and the purpose of the "hands on" evaluation of the "as delivered" aircraft. Thus, in our view, the Army reasonably relied on the TEUE results and was not required to consider proposed changes to the helicopter.⁸

Enstrom also argues that the vibration problem associated with its aircraft can be eliminated by reducing airspeed to 85 knots and below. The agency responds that reducing the airspeed to 85 knots is not an option. According to the agency, a reduction in speed would have a negative impact on training effectiveness since the FTG calls for flying at air speeds greater than 85 knots. Indeed, the SSEB chairman testified that the pilots spend much of their training time during the instrument phase operating the aircraft at 90 knots. Tr. at 32. In addition, the Army reports that Fort Rucker is used by many different types of aircraft, all of which operate routinely at 90 knots or faster and that slower aircraft would adversely affect traffic patterns and increase congestion at Fort Rucker. Other than merely disagreeing with those reasons, the protester has not shown them to be unreasonable. We therefore have no basis to find that the agency acted unreasonably by not deciding to reduce the speed at which it operates the aircraft.

⁸In its comments, the protester asserted that the Army "admitted" that Enstrom had resolved the instrument panel vibration problem. The agency explains, and the record shows, that in response to discussions, Enstrom "revised its IFR certification to satisfy the FAA with respect to vibration" Hearing transcript (Tr.) at 70. As stated by the Army, its acceptance of the plan "did not represent a substantive judgment on the part of the Army about the likelihood of certification or the success of any fixes proposed in that plan." Tr. at 70-71.

Finally, with respect to the vibration associated with its aircraft, Enstrom contends that the findings of the instructor pilots are inconsistent with the numerical score assigned to the Enstrom helicopter by the Army's experimental test pilots. The experimental test pilots assigned the Enstrom aircraft [deleted] a level which indicates that "experienced aircrew are aware of the vibration but it does not affect their work, at least over a short period." As the agency points out, the aircraft to be purchased are not intended for experienced pilots but will be used to train students with little or no flight experience. In addition, the experimental test pilot evaluation was not intended to address the impact the vibration may have on students but to investigate the underlying causes of the aircraft vibration. In this regard, we point out that 19 of 20 instructor pilots indicated that the Enstrom helicopter exhibited the undesirable flight characteristics of vibration and flight control feedback. We have no basis to conclude that the vibration assessment rating assigned to Enstrom's helicopter calls into question the instructor pilots' evaluation of the training effectiveness impact of the vibration experienced in the Enstrom helicopter.

We therefore find that, based on the TEUE, the agency reasonably concluded that vibration in the Enstrom helicopter degraded training effectiveness with respect to the instrument approach and partial panel maneuvers. In addition, with respect to the partial panel maneuver, the Army states that the poor placement of the compass was a contributing factor in assessing a weakness. Although Enstrom argues that the compass could be moved without affecting the operation of the aircraft, there is nothing in the record suggesting that Enstrom requested a deviation to make this change after completing the TEUE. Even if requested, the record shows that the modification would have an impact on training effectiveness and therefore, the deviation request could not have been granted.

B. Power Margin

Based on the TEUE, the Army found that, in performing the instrument take-off maneuver, Enstrom's helicopter had a "power margin" problem. The Army reports that the primary objective of the instrument takeoff maneuver is to "clear unseen obstacles in the vicinity of the helicopter by climbing prior to gaining horizontal speed" and that "[t]he maneuver is accomplished using a fixed power setting which is calculated prior to initiation of the maneuver." The agency explains that the Enstrom helicopter required [deleted] pounds per square inch (psi) of torque to perform this maneuver, the maximum power which the aircraft's torque gauge indicated was available. Tr. at 87. In addition, the

needle on the aircraft's torque gauge fluctuated continuously. As a result of the "zero" power margin and the fluctuating gauge, several of the instructor pilots at the TEUE inadvertently exceeded the power limitation listed on the torque gauge of the Enstrom aircraft, or "overtorqued" the helicopter. The Army reasoned that since the experienced pilots exceeded the power limit, inexperienced pilots would frequently overtorque the aircraft.

The Army explains that exceeding the specified torque limitation of a helicopter has significant consequences which would negatively affect the training of student pilots. Specifically, it states that consistent with the policies of Fort Rucker and the FAA, when an aircraft exceeds a torque limitation, it must be immediately landed and inspected for damage. In addition to the costs associated with inspecting and maintaining the aircraft under such circumstances, this procedure disrupts training.

Enstrom contends that the Army based its conclusion that Enstrom's helicopter had a power margin problem on its inability to climb 500 feet per minute while traveling at 90 knots. Enstrom argues that since the RFP does not require that both of these requirements--500 feet per minute and 90 knots--be met at the same time, it should not have been downgraded. The record does not support the protester's position.

The Army conclusion that Enstrom's helicopter had no power margin when performing the instrument take-off maneuver was based on the reports of the TEUE instructor pilots. Two of those pilots state that they unintentionally overtorqued the aircraft while performing this maneuver. The reports prepared by those pilots include no indication that the helicopter was overtorqued because the pilots performed the maneuver in a manner inconsistent with the FTG. Enstrom claims that the agency evaluated its "power margin as ineffective only after purposely overtorquing the engine to achieve a standing take-off rate of climb of 500 feet per minute," and that the pilots attempted to perform the instrument take-off maneuver at 90 knots. Although Enstrom has had access to the records of the technical evaluation and the TEUE, the protester has provided no evidence to support this assertion. Under the circumstances, we think the agency reasonably assigned a weakness to the Enstrom proposal based on its lack of a power margin during the instrument take-off maneuver.

In its comments on the hearing, Enstrom asserted for the first time that while the Army's finding was based on its understanding that the power limit of its helicopter was [deleted], Enstrom's "operating manual disclosed that

[deleted] for 3 seconds or less imposed no operation stress on Enstrom's helicopter." Our Bid Protest Regulations require that a protest be filed within 10 working days after the basis of protest is known or should have been known. 4 C.F.R. § 21.2(a)(2) (1993). Each new protest ground must independently satisfy the timeliness requirements. RRRS Enters., Inc., B-241512; B-241512.2, Feb. 12, 1991, 91-1 CPD ¶ 152. To allow the piecemeal presentation of evidence or development of protest issues would undermine the goals of our bid protest function to produce fair and equitable decisions based on consideration of all parties' arguments on a fully developed record without unduly disrupting the procurement of goods and services. See RC 27th Ave. Corp.--Recon., B-246727.2, May 20, 1992, 92-1 CPD ¶ 455.

Here, the agency report, provided to the protester on May 24, clearly stated that the Army understood that the torque limitation of the Enstrom aircraft was [deleted]. Therefore, at the latest, Enstrom knew by that date the basis for the agency's finding regarding the overtorqueing problem. Since Enstrom's argument that the Army misunderstood the maximum capabilities of its aircraft was first raised in its hearing comments submitted on July 21, more than 10 days after May 24, it is untimely.

In any event, the Army states that the only FAA approved power limit for Enstrom's helicopter was [deleted] and that the operators manual was in draft form and not approved by the FAA. The agency states that even if Enstrom had suggested the [deleted] limitation at the TEUE, it would not have allowed the pilots to operate the aircraft at power levels in excess of those approved by the FAA. We have no basis to disagree with the Army's judgment.

Enstrom next notes that the instructor pilots commented about the lack of power in the Bell aircraft and therefore argues that Bell should have been similarly downgraded. The protester complains that the Army's failure to do so demonstrates unequal treatment in the training effectiveness evaluation. Enstrom has not, however, explained how any alleged power problems associated with the Bell aircraft degraded training effectiveness, nor has it identified a particular maneuver for which training was adversely affected. Rather, it simply lists isolated comments of the instructor pilots and concludes that the agency should have assigned a weakness to Bell for "limited power margin."

Many of the instructor pilot's comments appear to be directed at the aircraft's performance of the contact maneuvers, "simulated maximum performance takeoff" and "hover." The negative comments appear to be reflected in the relatively low average scores assigned to Bell for those maneuvers: 4 and 4.5, respectively. We therefore do not

think that the pilots' comments demonstrate unequal treatment.

C. Refueling and Fuel Endurance

The RFP provided that the NTH fuel system "[s]hall provide the fuel required for 2 hours endurance plus 30 minutes reserve . . ." and that the "flight shall start at the maximum mission gross weight as defined in [section] 5.b. [of the RFP]." Section 5.b. stated that the "Maximum Mission Gross Weight (MMGW) shall be within the certified maximum gross weight and includes the NTH with . . . sufficient fuel for required endurance, all lubricants full, flyaway equipment including aircraft logbooks, and with a minimum crew of 3 at 200 pounds each (600 pounds total)." The RFP also contained a "noncritical" fuel endurance requirement of 3 hours with 30 minutes reserve.

Enstrom was assessed a weakness for aircraft refueling because its fuel tanks could not be "topped-off" or filled completely without exceeding the maximum gross weight of the aircraft. According to the Army, since the Enstrom fuel tanks could not be topped-off, to avoid exceeding the aircraft's maximum gross weight, a cumbersome and time consuming refueling procedure was required. Determining the amount of fuel which may be added requires "precise mission planning" and entails the use of a "dipstick calibrated specifically for the aircraft." Further, because of the location of the fueling port at the top of the aircraft, the use of a ladder and two refuelers were required. The Army concluded that the procedures required will result in increased refueling times causing delays to other aircraft in the "refueling sequence" and lost training time.

The protester does not dispute the existence of the refueling problem described by the Army. Rather, it asserts that the Army should have considered a "minor design change" to its aircraft to resolve the problem. The Army states, however, and the record shows, that there was no basis to consider such a proposed modification to the aircraft after the TEUE. As discussed, other than in limited circumstances not present here, offerors were required to provide the "as-delivered" production model at the TEUE.

Next, Enstrom asserts that the Army treated it differently than Bell because, according to Enstrom, Bell's helicopter "possessed refueling characteristics identical to" Enstrom's. According to the protester, since the Bell helicopter had the same problem, it was unreasonable for the SSAC and SSA not to have considered the alleged problem in the award decision.

The record does not support the protester's position that the Bell helicopter suffered from the same problem as the Enstrom. The record shows that at least once during the TEUE the Bell fuel tank could not be filled to capacity or topped-off because the helicopter was carrying a crew that weighed 667 pounds. Nonetheless, this was not considered a weakness because the refueling evaluation was based upon the RFP requirement of three 200-pound pilots, or a pilot weight of 600 pounds. Tr. at 98-99. The Army states that the fuel tanks on the Bell helicopter meet the refueling requirement since they can be filled to capacity without exceeding the aircraft's maximum gross weight when carrying a total pilot weight of 600 pounds.

The Army found that while Enstrom's aircraft met the fuel endurance requirement, the Bell helicopter had greater endurance and therefore allowed a wider selection of alternate training routes and landing sites. The agency explains that if a student pilot cannot land at his planned destination, for example because of poor visibility, the instructor may choose to use an alternate airport. The Army found that this increased flexibility would have a training benefit. The protester has not challenged the agency's position, which in our view, is reasonable.

D. Third Seat

The RFP required that the NTH have a minimum of three seats and stated that the "position of the third seat shall allow the observer to view the primary flight instruments and the outside flight environment from the seated and restrained position." It contained the following non-critical requirements: (1) "[t]he occupied third seat should not inhibit the [instructor pilot's] access to the student operating the controls, and [the pilot's] ability to regain control from the student and recover the aircraft;" and (2) "[t]he occupant of the third seat should have an unobstructed view and full readability of all flight and navigation instruments as well as a view of the control movements of the other student."

The Army states that the cockpit design of its current training helicopter has the third seat behind the pilots, yet allows the observer to view instruments, the actions of the pilots, and allows that occupant to ingress/egress the aircraft without climbing over the pilots seats. Although in the NTH competition the Army sought a training helicopter that allowed the same training effectiveness as the aircraft which it is to replace, the record shows that agency officials concluded that this goal would not be achieved. At the hearing held on this protest, we heard testimony on this issue from Major General John D. Robinson, the Commanding General at the Army's Aviation War Fighting

Center at Fort Rucker. General Robinson, who was a senior member of the SSAC, testified concerning the cockpit configuration, that while the Army had "hoped that it was possible [for an offeror to achieve] the full roominess and the capability we currently enjoy . . . , neither [Bell nor Enstrom] did it in the fashion I would like to have had as a trainer." Tr. at 206-207.

Enstrom offered [deleted]. The Army found that this design created a cramped cockpit. In addition to the discomfort of the occupants, [deleted]. The Army also found that entering and exiting the aircraft was difficult for the third seat occupant. [Deleted]. The agency also noted that it would be extremely difficult for the occupant of the third seat to exit the aircraft if one of the pilots became incapacitated [deleted].

With respect to Bell, the agency found that the helicopter met the minimum requirements through the use of a video monitor which enabled the student in the third seat to see the primary flight instruments. The Army noted several significant weaknesses with the video system: it was hard to read at night, caused glare problems, and vibrated. The SSEB concluded that the third seat provided only limited training benefit and no training benefit at night.'

Enstrom argues that given the respective weaknesses of the two offerors, Bell should have been severely downgraded in the training effectiveness area for limited training value of its third seat. It asserts that "[t]he Army's ability to train two pilots for the price of one was a major factor in Congress' decision to appropriate funds for this program." The protester argues that the Army should have "factored into Bell's training effectiveness score a 50-percent evaluation penalty commensurate with the 50-percent loss of training effectiveness [associated with the Bell third

⁹The protester argues that the inability to use the third seat for night training degraded training effectiveness of the Bell helicopter. The agency explained, however, that this had no impact on training effectiveness since "primary" training is not conducted at night, nor are there any plans to do so. While the protester questions the use of the term "primary," it is clear that this term refers to the "introductory" nature of the training for which the helicopters are to be used. The protester also argues that the specifications require exterior lighting and therefore contends that night flying must be intended. As the agency states, however, even though the NTH aircraft will not be used to train students at night, it will be necessary on occasion to operate the aircraft at night, for instance, for maintenance purposes. Tr. at 115.

seat]." We find the protester's argument to be without merit.

There is no evidence in the record demonstrating that the ability to "train two pilots for the price of one" was a goal of the NTH acquisition. Moreover, even if this were a goal, it was not reflected in the RFP on which the competition was based. There is simply nothing in the record to suggest that the Army expected that the occupant of the third seat would receive the same training benefit as the primary student. The only RFP requirements concerning the third seat are those stated above relating to the cabin configuration. At the hearing, General Robinson described the training value of the third seat as providing "vicarious learning." Tr. at 203. He stated that "[t]here is no substitute for a student to be on the controls and to have the instructor pilot there . . . demonstrating the maneuver or to have the student doing it with the pilot. . . ." Tr. at 207-208. He described the "vicarious learning" to a student with no prior experience with helicopter flight as "the excitement of being up in the air and moving around and sort of seeing where he is, experiencing turns and approaches and takeoffs and in hearing the instructor pilots. . . ." Tr. at 203. In addition, use of the third seat "gets the second student on out to the stage fields where the contact [flight training] work is done or to a distant air field where the student changeover may be for instrument flight training" Tr. at 205.

In light of the above, we have no basis to disturb the Army's conclusions concerning the relative training effectiveness of the third seat in each of the competing aircraft. The Army found that both Bell and Enstrom had weaknesses associated with the third seat which are supported by the record and, in our view, none of the weaknesses were of decisive significance to the overall assessment of the training effectiveness offered by either aircraft.¹⁰

In sum, we find the agency's training effectiveness evaluation of both the Bell and Enstrom aircraft to be reasonable and supported by the record.

¹⁰Enstrom also complains that the Army unreasonably found that its aircraft had inadequate storage space for maps and publications and that it had inadequate overhead clearance in the third seat. Similar weaknesses were noted with respect to the Bell aircraft and, based on our review, these weaknesses provided no basis for the agency to distinguish between the two aircraft.

2. Technical Acceptability Of Bell's Helicopter

Enstrom complains that the Army relaxed a solicitation requirement to accommodate Bell. Specifically, it argues that the position of the Bell third seat does not allow the observer to view the primary flight instruments from the seated and restrained position, as required by the RFP. The protester quotes the narrative evaluations of a number of instructor pilots who expressed concern about the training utility of the Bell third seat. For example, the pilots noted that the student in the back seat "cannot see movement of the flight controls" or "view is restricted on many flight instruments." Many of the comments were general observations about the Bell video monitor system such as the difficulty in reading the information displayed on the screen or the glare it caused.

The SSEB determined that, when looking at the video screen, the student pilot could, in fact, see all of the primary flight instruments. The SSEB chairman testified that "we sent several individuals down to Fort Rucker and they physically ensured by virtue of looking . . . at the aircraft [and] turning on the [video monitor] that . . . in fact you could see the primary flight instruments." Tr. at 109. While the SSEB found, based on the TEUE comments, that the instruments farthest away and at an angle are shown with some distortion and that the screen was affected by vibrations, the information was still readable. The SSEB stated, however, that several instructor pilots were critical of the video system, noting that "some felt that the entire instrument panel . . . need[ed] to be displayed. . . ."

Based on the record before us, we simply cannot conclude that the agency unreasonably found that the Bell aircraft's video system achieved compliance with the critical requirement, that the student in the third seat be able to view all primary instruments. The protester's reliance on a list of pilot comments criticizing Bell's video system does not demonstrate that the agency's conclusion regarding the visibility of the primary instruments was unreasonable. We point out, in this regard, that the pilots were not tasked with assessing the aircrafts' technical compliance with critical requirements such as the one at issue here. While some of the pilots had concerns that all primary flight instruments could not be seen under all lighting conditions, the pilots' concerns related to training effectiveness, not compliance with the critical requirement. Indeed, it is not clear from the protester's submissions which flight instruments it believes cannot be seen. Since the protester has merely highlighted concerns which the Army was aware of, the protester's argument amounts to disagreement with the agency's conclusion concerning the visibility of the

instruments. Such disagreement does not demonstrate that the agency's ultimate conclusion was unreasonable.

3. Source Selection Decision

Enstrom asserts that the Army failed to conduct a cost/technical tradeoff; it contends that if the Army had performed such an analysis, it would have determined that Enstrom's proposal, which included a lower acquisition price and lower life cycle costs, was the best value. The protester also contends that the cost difference between the Bell and Enstrom aircraft, as presented to the SSA, was understated and that it was unreasonable for the Army to award the contract to Bell at a substantially higher price than that offered by Enstrom.

- First, the record clearly shows that the SSA conducted a cost/technical tradeoff in which he considered the evaluation areas set forth in the RFP. With respect to the potential cost savings, as indicated above, the SSA based his decision on the Army's evaluation data which showed that the total 5-year costs of the Bell helicopter were [deleted] more than those associated with the Enstrom aircraft. Enstrom has not challenged the agency's evaluation of the acquisition price, life cycle costs, or other cost/benefits for either Bell or Enstrom. Rather, Enstrom asserts that the savings over the 20-year life of the NTH program of choosing the Enstrom helicopter would be [deleted], or four times the 5-year costs and it contends that the Army should have considered this figure in the selection decision.

The Army argues that Enstrom's 20-year "extrapolation" is overly simplistic. In this respect, the agency notes that by simply multiplying the 5-year cost by four, the protester assumes that the Army will incur the acquisition cost of the aircraft 3 more times within 20 years. In any event, since the RFP contemplated an evaluation based on 5-year life cycle data, we see nothing improper in the agency's use of 5-year costs as the basis for its evaluation.

¹¹To the extent that the protester alleges that the selection decision should have been based on a 20-year total cost analysis rather than 5-year, this argument is untimely since it is based on an alleged defect in the solicitation. In this respect, protests based on alleged improprieties in a solicitation are required to be filed prior to the time set for receipt of initial proposals. 4 C.F.R. § 21.2(a)(1). Here, the RFP stated that the agency would consider 5-year life cycle cost data and any complaint that the selection should have been based on consideration of 20-year data is untimely.

With respect to the protester's challenge to the reasonableness of the selection of Bell at a higher cost/price, under a solicitation such as the one here, which calls for award on the basis of best overall value to the government, there is no requirement that award be made on the basis of low cost or price. Agency source selection officials have discretion in determining the manner and extent to which they will make use of the technical and cost evaluation results. Technical and cost tradeoffs are permitted and the extent to which one may be sacrificed for the other is governed by the test of rationality and consistency with the established evaluation factors. See Grey Advertising, Inc., 55 Comp. Gen. 1111 (1976) 76-1 CPD ¶ 325. We will accord due weight to the judgment of selecting officials concerning the significance of the difference in technical merit of offers and whether that difference is sufficiently significant to outweigh the cost difference. Litton Sys., Inc., supra.

Here, the primary justification for the award to a higher-cost offeror was the Army's determination that the Bell helicopter would provide greater training effectiveness than the lower-cost Enstrom helicopter. The RFP specifically advised offers that training effectiveness was more important than cost or any other factor. The record shows that Bell's proposal also was considered somewhat more favorable under the past performance and management factors, and the protester has not challenged those conclusions. As discussed above, the training effectiveness evaluation was reasonable and fully supported by the extensive hands-on testing performed by the Army. Since the aircraft will be used to train incoming students, we think it was reasonable for the Army to conclude, based in large measure on the training effectiveness evaluation, that the superiority of the Bell aircraft outweighed the cost difference.

Enstrom also complains about the methodology used by the SSEB in analyzing and presenting the TEUE data to the SSAC and SSA. Enstrom argues essentially that the selection officials were given an inaccurate picture of the relative strengths and weaknesses of the training effectiveness of the Bell and Enstrom helicopters and that the numerical scores associated with those proposals were flawed. For example, it argues that the Army's data from the TEUE was unreliable and requests that we recommend that the Army reconduct the TEUE.

We find nothing in the record to support the protester's assertions. While the SSEB synthesized the raw data generated by the TEUE and made specific assessments regarding training effectiveness, the protester has not shown these findings to be unreasonable. These findings were, in turn, presented to the SSAC and SSA along with the

TEUE data. We find nothing improper with the Army's approach, and as discussed, we think the conclusions reached were reasonable.¹² To the extent that the protester argues that the conclusions of the SSAC and the SSA did not mirror the views of particular instructor pilots or the SSEB, source selection officials in negotiated procurements are not bound by the recommendations or evaluation judgments of lower-level evaluators, even though the working level evaluators may normally be expected to have the technical expertise required for such evaluations. Benchmark Sec., Inc., B-247655.2, Feb. 4, 1993, 93-1 CPD ¶ 133.

CONCLUSION

We find no legal basis to disturb the award. In reaching this conclusion, we have carefully reviewed the extensive evaluation record in the context of all of the protester's contentions and arguments. While we have not treated in detail each and every one of the protester's allegations, they have all been considered and have played a role in our decision.

The protest is denied.

James F. Hinchman
General Counsel

¹²Enstrom also objects to the Army's statistical analysis of the TEUE scores which emphasized examining "clusters" of pilot scores to ensure that isolated comments did not skew the evaluation. Enstrom argues that the SSEB scores should have been determined by averaging the pilot scores. Enstrom has not shown that the Army's approach was either unreasonable or inconsistent with the RFP. In any event, there was no requirement that the selection decision be based on the point scores which are merely guides to intelligent decision-making. See Harris Corp. PRI, Inc., B-247440.5; B-247440.6, Aug. 13, 1992, 92-2 CPD ¶ 171.